AMSAT News Service Weekly Bulletins
Issue: ANS-115
Date: 2016-04-24
Sources: amsat-ans-2016-ans-115-weekly-hyperkitty-64b0e10364.txt

---

AMSAT NEWS SERVICE
ANS-115

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

In this edition:

* IARU-R1: Global APRS Harmonisation and Satellite Coordination
* United Launch Alliance Opens Competition for Free Cubesat Launches
* TAPR Dayton Hamvention Digital Forum Announces Presenters
* OUFTI-1 Telemetry Decoder App
* Commemorative ARISS Slow-Scan TV Transmissions a Success
* Be The First to Catch a Signal From Fly Your Satellite! From Space!
* ARISS News
* Satellite Shorts From All Over

SB SAT @ AMSAT $ANS-115.01
ANS-115 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 115.01
>From AMSAT HQ KENSINGTON, MD.
DATE April 24, 2016
To All RADIO AMATEURS
BID: $ANS-115.01

IARU-R1: Global APRS Harmonisation and Satellite Coordination

The IARU Region 1 Interim Meeting was held April 15-17, 2016 in Vienna. Minutes for the C5 VHF/UHF/Microwave committee are now available.

Some 70 delegates from over 20 Member Societies discussed a wide range of issues in the VHF/UHF/Microwave, HF and EMC Committees. Recommendations from the meeting will be considered by the Region 1 Executive Committee at its meeting in early May 2016. If approved by the EC, these recommendations will become interim Region 1 policy until the next General Conference in 2017, at which time all Societies present will have the opportunity to ratify the proposals.

Among the key items in the minutes are:

4.1. Report of satellite coordinator C5_04
Graham Shirville G3VZV presented the report of satellite

coordinator. G3VZV emphasized that the frequency coordination between the three Regions has to be improved for avoiding interference incidents like PC-Sat and some of the XW2 satellites.

Due to current reports from MS about some observations of harmful interference, RSGB is asked to prepare a statement for publishing to inform MS and members how to take care.

C5 chairman is asked to bring up the issue on EC meeting, because further AC action is required.

5.2. Band Planning 5 GHz: C5_10
VIE16_C5_Rec_06: To correct the satellite segment the table in chapter 4.9 by deleting “5790”, inserting “5830” and adding the footnote: “Any wideband system shall protect narrowband applications”.

6.1. General matters: C5_26
VIE16_C5_Rec_11A: To discuss an even more extended [Grid Square] locator system that is used for ATV (including IARU ATV contest) and for other purposes by using the Wiki and prepares a document for GC 2017 if necessary. (Note this will clarify the definition of 10 digit [character] locators used for microwaves etc see example at http://no.nonsense.ee/qth/map.html)

7.2. APRS Harmonisation: C5_41
VIE16_C5_Rec_23: The C5 chairman to answer Regions 2 and 3 that:
• 144.390 MHz is not suitable for Region 1 and that Region-3 should consider 144.800
• To consider an additional 144 MHz frequency (that might be compatible) with Region 2 and 3
• To also consider 435 MHz usage and newer APRS technologies (for the 2017 GC)

Download the C5 VHF/UHF/Microwave Vienna 2016 Minutes
http://tinyurl.com/IARU-R1-Vienna-2016-C5-Minutes

The input papers are available as a matter of record:

HF Papers http://tinyurl.com/ANS115-HFpapers

VHF/UHF/Microwave papers http://tinyurl.com/ANS115-MicrowavePapers

EMC Papers http://tinyurl.com/ANS115-EMCpapers

[ANS thanks AMSAT-UK for the above information]

United Launch Alliance Opens Competition for Free Cubesat Launches

United Launch Alliance has begun accepting applications from colleges and universities across the U.S. to compete for free cubesat launch slots aboard upcoming Atlas 5 rockets.

The educational opportunity will use excess performance aboard rockets launching to space to carry the tiny student-made craft made of science and technology experiments.

“Universities pioneered cubesat development, and there is a growing need for launch access and availability,” said Tory Bruno, ULA president and CEO.

“Our goal is to eventually add university cubesat slots to nearly every Atlas and Vulcan Centaur launch – with potential for 100 rides per year.”

Cubesats are baselined at 10 cm x 10 cm x 10 cm (4 inches x 4 inches x 4 inches) and approximately 1.3 kg (3 lbs). The craft are housed in a box-like Aft Bulkhead Carrier on the Centaur upper stage, next to the RL10C-1 engine, and ejected from the dispenser into orbit.

ULA has successfully launched 55 cubesats through the company’s 106 flights to date. Those opportunities were via National Reconnaissance Office, Air Force and NASA initiatives.

Now, ULA is giving the miniature hitchhiker payloads free rides on Atlas 5 boosters and the future Vulcan rocket now in development to debut in 2019. The company is the first launch provider to make free cubesat flight opportunities available on its own.

“ULA’s cubesat program revolutionizes access to space for these payloads while ensuring that the next generation of rocket scientists and space entrepreneurs has the opportunity to continue driving on-orbit innovation,” Bruno said.

The competitive program is available to all U.S. accredited colleges and universities. They are encouraged to partner with K-12 schools to further expand science, technology, engineering and math (STEM) education.

The deadline to apply is June 1. The winning cubesats will be announced later this summer.

The selection committee will look at a proposal’s mission objectives in science and STEM, outreach plans for their local community, technical requirements and the likelihood of meeting the development schedule. Safety to the flight’s primary payload and ensuring the cubesat will not threaten or do any harm to the mission will be judged, too.

Each application will face the following criteria:

* Technical Requirements – 25%
* Mission Objective – 25%
* Outreach Component – 25%
* Proposal Credibility – 15%
* Quality of Proposal – 10%

Six cubesat launch slots are available in this first round of the program, each payload sized at “1U” in cubesat-speak, for two Atlas 5 missions. The first launch will likely be a geosychronous transfer orbit mission targeted for mid-2017. The second flight, also to GTO, is planned for mid-2018.

To apply, visit: http://www.ulalaunch.com/cubesats.aspx

[ANS thanks SpaceFlightNow.com for the above information]

TAPR Dayton Hamvention Digital Forum Announces Presenters

TAPR has announced the presentations for its Dayton Hamvention® Digital Forum, moderated by Scotty Cowling, WA2DFI, on Friday, May

20, at 9:15 AM.

Among the presentions will be “SatNOGS – A network of open source satellite ground stations,” by Corey Shields, KB9JHU. CubeSat operators tend to have few ground stations of their own and rely on radio amateurs to help collect telemetry. The SatNOGS Project is a Network of Open Source Satellite Ground Stations, focusing on Low Earth Orbit (LEO) satellites. Shields will introduce SatNOGS as a way to increase the amount of data collected and reported from these CubeSats.

Bryan Fields, W9CR, will present “HamWAN High-Speed IP Radio Network,” an Amateur Radio high-speed IP backbone concept that uses the same techniques enabling the Internet.

The topic of a presentation by Chris Testa, KD2BMH, will be “SDR Disrupt.” It will review the landscape and advancements in SDR technologies over the past year, as numerous technologies are driving the power-price-performance curve to a new level of efficiency. Latest developments in digital voice will also be discussed.

“Spectrum Monitoring with Software Defined Radio,” by Mike Ossmann, AD0NR, will follow.

More information about TAPR activities at Dayton is on the TAPR website.
http://www.tapr.org/dayton.html

[ANS thanks TAPR and the ARRL for the above information]

OUFTI-1 Telemetry Decoder App

The OUFTI-1 D-STAR CubeSat team have released the format of the CW telemetry beacon and a Decoder App. The launch, on a Russian Soyuz-STA Fregat-M from Kourou in South America, is expected to take place at 21:02:13 UT on Friday, April 22, 2016.

OUFTI-1 is a nano-satellite entirely developed by the students of the University of Liege (ULg), Belgium, along with two other engineering schools. It is the first satellite to carry a dedicated amateur radio D-STAR transponder.

OUFTI-1 amateur radio information including Keps
http://events.ulg.ac.be/oufti-1/radioamateurs/

The PDF of the article ‘D-STAR digital amateur communications in space with OUFTI-1 CubeSat’ by Jonathan Pisane ON7JPD, Amandine Denis ON4EYA and Jacques Verly ON9CWD can be downloaded from
http://tinyurl.com/ANS115-OUTFIT-1

IARU coordinated frequencies for all CubeSats on the Russian Soyuz launch http://www.amsat.org.uk/iaru/

OUFTI-1 – 145.950 MHz FSK AX25 and D-STAR (uplink 435.045 MHz) – CW beacon 145.980 MHz
e-st(a)r-II – 437.485 MHz CW and 1k2 AFSK
AAUSAT-4 – 437.425 MHz

[ANS thanks AMSAT-UK for the above information]

Commemorative ARISS Slow-Scan TV Transmissions a Success

The recent commemorative Amateur Radio on the International Space Station (ARISS) slow-scan television (SSTV) transmissions from April 11 to April 14 were successful, with images received by many stations around the world. The SSTV transmissions marked the 15th anniversary (in 2015) of continuous Amateur Radio operations on the International Space Station.

The first ISS crew conducted its inaugural ham radio contact from NA1SS in November 2000, and the first ARISS school/group contact took place the following month. Since then more than 1000 ARISS school/group contacts have been completed.

Images received from the ISS have been posted on the gallery website. Anyone who received SSTV images from the ISS also may post them there. The SSTV transmissions were in PD180 format. Additional "MAI-75 Experiment" SSTV transmissions took place on April 14 and April 15, and these have been posted as well. The commemorative SSTV images showed a few of the radio amateurs who have served aboard the ISS.

The gallery of images can be viewed at
http://ariss-sstv.blogspot.com/

[ANS thanks ARISS and the ARRL for the above information]

Be The First to Catch a Signal From Fly Your Satellite! From Space!

It is time to start listening to space. To celebrate the upcoming launch of the three Fly Your Satellite! student-built CubeSats into low Earth orbit, ESA's Education office challenges the amateur radio community to listen out for the tiny satellites.

The first three radio amateurs to send a recorded signal from either AAUSAT4, E-st(a)r-II or OUFTI-1 will receive a prize from ESA's Education Office.

The satellites will be launched on 22 April onboard the Soyuz VS-14 flight from the European Spaceport in Kourou, French Guiana. Together with CNES' Microscope scientific satellite, they will be auxiliary payloads in the launch of ESA's Earth observation satellite Sentinel-1B, the main passenger on this flight.

Soon after being deployed into their final orbit, the CubeSats will begin transmitting signals to Earth that can be picked up by anyone with common amateur radio equipment. ESA challenges anyone to record the signal and send it to cubesats(a)esa.int, and to the CubeSat team.

For each CubeSat, the first email received for which the signal is confirmed to belong to the CubeSat will be awarded with the following prizes:

ESA Fly Your Satellite! poster
ESA Education goodie bag
Scale 1:1 3D printed model of a CubeSat

Radio Contact Information:
Please consult the following links to obtain specific information
for radio contact for each of the three CubeSats.

AAUSAT4 Downlink frequency 437.425 MHz
For more HAM radio information see
http://tinyurl.com/ANS115-AAUSAT4
Contact: aausat4 (at) space.aau.dk

E-st(a)r-II Downlink frequency 437.485 MHz
For more HAM radio information see
http://www.cubesatteam-polito.com/operations/radio-amateurs
Contact: cubesat.team (at) polito.it

OUFTI-1 Downlink frequency 145.980 MHz
For more HAM radio information see
http://events.ulg.ac.be/oufti-1/radioamateurs/
Contact: oufti-1 (at) ulg.ac.be

What your email should contain:
Sound recording of the CW beacon
Your Name
Callsign
Snailmail address for QSL
Reception time of CW beacon
CW beacon decoded
Location
A few lines about your equipment

More information about Fly Your Satellite! can be found at
http://www.esa.int/Education/CubeSats_-_Fly_Your_Satellite

[ANS thanks ESA for the above information]

ARISS News

+ A Successful contact was made between STEM Trajectory Initiative
with Albuquerque Public Schools, Albuquerque, New Mexico and
Astronaut Jeff Williams KD5TVQ using Callsign NA1SS. The contact
began 2016-04-22 17:32:37 UTC and lasted about nine and a half
minutes. Contact was direct via NM5HD.
ARISS Mentor was Tim W6MU.

+ A Successful contact was made between TBD Saratov, Russia
and Cosmonaut Yuri Malenchenko RK3DUP using Callsign RS0ISS. The
contact began 2016-04-23 09:06 UTC and lasted about nine and a half
minutes. Contact was direct.
Mentor was Sergey RV3DR.

+ A Successful contact was made between Wellesley House School,
Broadstairs, Kent, UK and Astronaut Timothy Peake KG5BVI using
Callsign GB1SS. The contact began 2016-04-23 12:10:50 UTC and lasted
about nine and a half minutes. Contact was direct via GB1WHS.
ARISS Mentor was Ciaran MØXTD. HamTV coverage???

Upcoming ARISS Contact Schedule

Republic of Chuvashia, direct via TBD (***)
The ISS callsign is presently scheduled to be RSØISS (***)
The scheduled astronaut is Yuri Malenchenko RK3DUP (***)

Contact is a go for Sun 2016-04-24 09:50 UTC

The Derby High School, Bury, UK, direct via GB1DHS
The ISS callsign is presently scheduled to be GB1SS
The scheduled astronaut is Timothy Peake KG5BVI
Contact is a go for: Mon 2016-04-25 12:02:27 UTC

Istituto Comprensivo Statale “Diego Valeri”, Campolongo Maggiore,
Italy, direct via IZ3YRA
The ISS callsign is presently scheduled to be OR4ISS
The scheduled astronaut is Tim Kopra KE5UDN
Contact is a go for: Fri 2016-04-29 08:34:08 UTC 64 deg

[ANS thanks ARISS, Charlie AJ9N and David AA4KN for the above
information]

[ANS thanks ARISS, Charlie AJ9N information]

Satellite Shorts From All Over

+ The article, "Amateur Radio in the STEM Classroom One Tecinical
Tool-Countless Lesson Applications" appears in the latest Tech
Directions magazine.
The article can be read at
http://tinyurl.com/ANS115-techdirections

The free magazine is at:
https://www.techdirections.com/

[ANS thanks ARRL's Illinois Section newsletter for the above
information]

+ Lomonosov, AIST-2D and SamSat-218 Launch

First launch from Vostochny - carries a three-satellite payload. The
purpose of the mission is to test the infrastructure associated with
the new launch site.

There is a pair of satellites for sun-synchronous orbit:

Lomonosov - Science satellite for studies of ultra-high energy
cosmic rays, X-rays and gamma rays in the upper layers of the Earth’s
atmosphere and in near-Earth space.

Lomonosov mission website: http://lomonosov.sinp.msu.ru/en/

AIST-2D - Joint project between Samara State Aerospace University
and SRC Progress to develop a small light-weight surveillance
spacecraft principally for use by the Russian government.

The launch will also carry SamSat-218 - 3U Cubesat created by
students and scientists from Samara State Aerospace University in
Russia as a technology demonstrator and educational satellite. Its
main task is to test algorithms for controlling the orientation of
nano-satellites.

The Volga stage of the launch vehicle will be caused to re-enter
over the south Pacific Ocean about six hours after lift-off.

Possible webcast (very much "to be confirmed"):
http://www.russian.space/306/

[ANS thanks www.zarya.info for the above information]

+ New Distance Record for AO-85

  A new distance record of 5751 kilometers (3565.6 miles) has been
  claimed for an AO-85 (Fox-1A) satellite contact.

  Betrand Demarcq, FG8OJ, in Saint-Francois, Guadeloupe (FK96ig),
  worked Jose Elias Diaz Rodriguez, EB1FVQ, in Vigo, Spain (IN52pe),
  at 19:15 UTC on April 14, 2016.

  A recording of the contact is available.
  https://www.dropbox.com/s/s0o1b1as1xlcrjs/eb1fvq.mp3

  AMSAT posts records on its AMSAT Satellite Distance Records page.
  Send new claims to Paul Stoetzer, N8HM. The AO-85 CubeSat was
  launched last October. It carries a U/V FM transponder. –

  [ANS thanks Thanks Paul, N8HM and the ARRL for the above
   information]

+ Satellite Distance Records can be viewed at
  http://www.amsat.org/?page_id=4751

  [ANS thanks AMSAT for the above information]

/EX

In addition to regular membership, AMSAT offers membership in the
President's Club. Members of the President's Club, as sustaining
donors to AMSAT Project Funds, will be eligible to receive addi-
tional benefits. Application forms are available from the AMSAT
Office.

Primary and secondary school students are eligible for membership
at one-half the standard yearly rate. Post-secondary school students
enrolled in at least half time status shall be eligible for the stu-
dent rate for a maximum of 6 post-secondary years in this status.
Contact Martha at the AMSAT Office for additional student membership
information.

73,
This week's ANS Editor,
EMike McCardel, AA8EM (former KC8YLD)
kc8yld at amsat dot org